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EXAMINER	
CHEN, CHIA WEI A	

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2622	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/571,066	CHATTING ET AL.	
	Examiner	Art Unit	
	CHIA-WEI A. CHEN	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 January 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *31-59* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *31-35,37-39,41-47,49-51 and 53-59* is/are rejected.

7)☒ Claim(s) *36,40,48 and 52* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 01/25/2010 have been fully considered but they are not persuasive.

Applicant argues with respect to new claims 31-59 that Cash does not teach the limitations of the independent claims: "generating combined video images for display by combining the video image of the local participant with the video image of the remote participant such that the image so the participants appear to be overlaid one on top of the other in substantial alignment," and that in fact Cash teaches away from the claimed inventions of independent claims 31, 42, 43, and 54. Applicant specifically asserts that "no combination of images would be possible from the teachings of Cash and only one of the participants (i.e., either the face of the local user himself or the face of the participant) would be shown on the display" (page 14 of Applicant's Remarks).

However, Examiner respectfully disagrees. Reading the claim limitations in the broadest sense, Cash teaches in col. 4, lines 50-61 and illustrates in Fig. 1 (the video displays 20 and 30 of the two separate computer terminals) that that images of the video conference participants (indicated by windows labeled "A", "B", and "C") are displayed in a "substantial alignment" with each other.

Applicant argues that in the invention of Cash, only one of the participants would be shown when the images are overlaid "one on top of the other in substantial alignment." However, Cash teaches that a user can align and overlap the images on top

of one another in any configuration, especially to ensure all participants are visible on screen (see col. 4, lines 50-61).

Furthermore, Applicant specifically argues that the macroblock elimination taught by Cash prevents the invention of Cash from displaying more than one participant on screen at a time, and therefore asserts that Cash teaches away from the claimed invention.

However, Examiner respectfully disagrees. The teaching of Cash of the elimination of part of an image that is overlaid by another window such that the data is discarded and not even decoded is irrelevant to the discussion because the claims do not require that all the overlapping portions of the each video frame are displayed simultaneously. The claimed invention does not require that data from the overlapping video portions are not discarded when displayed on the video screen. Thus the argument that macroblock elimination teaches away from the claimed invention is moot.

Claim Objections

2. Claim 55 is objected to because of the following informalities: In line 1, there should be an “a” preceding the limitation “quality measurer.”

3. Claim 59 is objected to because of the following informalities: The first word of the claim should be capitalized.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 31, 32, 37, 38, 39, 41, 43, 44, 49, 50, 51, 53, and 57 are rejected under 35 U.S.C. 102(b) as being anticipated by Cash (US 5,481,297).

Claim 31, Cash teaches, in Fig. 1, a video calling system comprising:

a) a video camera (camera 14) arranged to produce local video images representative of a local video call participant;

b) a transmitter (each node transmits video data via the packetizer 248 via communication line 14; see Fig. 2 and col. 4, lines 29-37) arranged to receive said local video images (video data is sent from buffer output 244 to packetizer 248; see col. 8, lines 1-5) and send information relating to said local video images to a remote receiver (each user transmits video signal to the network; see col. 4, lines 38-41) and a receiver (decoding circuit 400 receives video sequences from the network; col. 8, lines 27-29) arranged to receive information relating to remote video images representative of a remote participant in the video call via a communications link (circuit 400 receives, decodes and displays a plurality of video sequences provided through a network 302 as data packet stream; col. 8, lines 27-29);

c) a local video display (display 10) arranged to display video images to said local video call participant (See Fig. 1); and

d) an image generator (display controller 418, Fig. 4) arranged to receive said local video images and information relating to said remote video images, and generate combined video images for display on said local video display by combining said local and remote images such that the images of the participants appear to be overlaid one on top of the other in substantial alignment (see overlaid videos on the displays of Fig. 1, see also col. 4, lines 50-61).

Cash teaches in col. 4, lines 50-61 and illustrates in Fig. 1 (the video displays 20 and 30 of the two separate computer terminals) that that images of the video conference participants (indicated by windows labeled “A”, “B”, and “C”) are displayed in a “substantial alignment” with each other.

Claim 32, Cash teaches a system according to claim 31, and further comprising:

an image processor (processing filters 208, 212) arranged to process said local video images and/or said remote video images according to one or more respective image processing operations (filtering operation), and to output processed versions of the local and/or remote video images to the image generator as input thereto;

wherein said image processing operations are operable to process said video images such that the respective participants of the local and remote video images are separably distinguishable in the combined image generated by the image generator means (See Fig. 1: displays of first and second scenes are distinguished by the window frames on the display.).

Claim 37, Cash teaches a system according to claim 32, wherein the remote video images are not processed by the image processor (full resolution image from camera can be directly fed into strip memory 220 without undergoing processing by the filters; see Fig. 2), and the image generator operates to overlay the respective processed local video images onto the received remote video images (see displays of Fig. 1: the user can choose which image is overlaid on top of another.).

Claim 38, Cash teaches a system according to claim 32, wherein the image processor is further operable to process the local video images twice to produce two processed versions of the local images (see Fig. 2: The system of Cash processes the signal from the camera in at least two ways using one filter [208] or two filters [208 and 212] to produce at least two different versions of the local images); wherein a first processed version of each image is input to the image generator as input thereto, and a second processed version of each image is input to the transmitter for transmission thereby (different versions are output by the processing section of Fig. 2 and are received by the different nodes. The first processed version of the image can then be displayed by the first node and the second processed version is also transmitted via the communication line 40.).

Claim 39, Cash teaches a system according to claim 38, wherein different image processing operations are applied to the local video images to produce the first processed versions and the second processed versions respectively (a single filter [208]

is used to produce the first processed version and two filters [208 and 212] are used to produce the second processed version; see Fig. 2).

Claim 41, Cash teaches a system according to claim 31, wherein the local image includes the local user's head, and/or the remote image includes a remote user's head (users' head and torso; col. 4, line 42).

Claims 43, 44, 49, 50, 51, and 53 are rejected as the method claims performing the steps of the apparatus of claims 31, 32, 37, 38, 39, and 41, analyzed above.

Claim 57 is rejected as a computer readable storage medium storing a computer program or any one or more of a suite of computer programs (see Fig. 1: workstation is a computer with video displays, cameras, and display windows, i.e., software, that appear on the video display; col. 4, lines 1-11) such that when executed by a computer or collectively by a plurality of computers it/they cause the computer or computers to perform the method of claim 43, analyzed above.

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 33, 34, 45, and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cash in view of Oliyide (US 5,978,518)

Claim 33, Cash teaches a system according to claim 32, wherein video images of high quality with high bandwidth requirements or low quality with lower bandwidth requirements are produced (see Fig. 2), but does not expressly teach wherein one of the image processing operations comprises an image contrast enhancement operation.

Oliyide teaches wherein one of the image processing operations comprises an image contrast enhancement operation (unsharp masking operation; col. 2, lines 7-22).

It would have been obvious to a person having ordinary skill in the art to have used the teaching of Oliyide with that of Cash in order to enhance the image presented to a viewer and to provide a means for sharpening the edges of an image without sharpening the noise. (See col. 2, lines 40-42 of Oliyide.)

Claim 34, Oliyide further teaches that the image contrast enhancement operation comprises detecting edges within the input image to produce an edge map (decompose into a high frequency image), applying a threshold operation to the input image to produce a thresholded image (decompose into a low frequency image), and combining the edge map with the thresholded image to produce the processed image (combining the processed resolution images to form a resulting image; col. 2, lines 8-17).

Claims 45 and 46 are rejected as the method claims performing the steps of the apparatus of claims 33 and 34, analyzed above.

8. Claims 35, 47, 55, 56, 58, and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cash in view of Cohen-Solal (US 7,206,029).

Claim 35, Cash teaches a system according to claim 32, but does not expressly teach that one of the image processing operations comprises processing to render the processed image of increased opacity.

Cohen-Solal teaches a image processing means (processor 120) wherein one of the image processing operations comprises processing to render the processed image of increased opacity (Cohen-Solal teaches rendering one of two video signals overlaid on a display transparent; see col. 7, lines 39-44. That is, one of the video signals has an increased opacity and the other video signal has a decreased opacity.) .

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the transparency of Cohen-Solal with the teaching of Cash in order to prevent the obscuration of the underlying image when two images are overlaid. (See col. 7, lines 39-44 of Cohen-Solal.)

Claim 55, Cash teaches a system according to claim 32, Cohen-Solal teaches that the system further comprising a quality measurer for determining a measure of at least one characteristic indicative of image quality for the local video images, the image generator being responsive to an indication of the measured quality, such that at least one visible characteristic of the combined images of the local video call participant is dependent on the image quality of the local video images (the transparency of the

overlaid video image is adjusted based on a characteristic, i.e., a color portion or a texture portion, present in the primary image; see claim 9 and col. 4, lines 34-40 of Cohen-Solal).

Claim 56, Cohen-Solal further teaches that the degree to which the combined images relating to the local video call participant are opaque is dependent on the image quality of the local video images (the transparency of the overlaid video image is adjusted based on a characteristic, i.e., a color portion or a texture portion, present in the primary image; see claim 9 and col. 4, lines 34-40 of Cohen-Solal).

Claims 47, 58, and 59 are rejected as the method claims performing the steps of the apparatus of claims 35, 55, and 56, analyzed above.

9. Claims 42 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cash in view of Maurer (US 6,272,231).

Claim 42, Cash teaches a video calling system comprising:

a) a video camera (camera 14) arranged to produce local video images representative of a local video call participant;

b) a transmitter (each node transmits video data via the packetizer 248 via communication line 14; see Fig. 2 and col. 4, lines 29-37) arranged to receive said local video images (video data is sent from buffer output 244 to packetizer 248; see col. 8,

lines 1-5) and send information relating to said local video images to a remote receiver (each user transmits video signal to the network; see col. 4, lines 38-41) and a receiver (decoding circuit 400 receives video sequences from the network; col. 8, lines 27-29) arranged to receive information relating to remote video images representative of a remote participant in the video call via a communications link (circuit 400 receives, decodes and displays a plurality of video sequences provided through a network 302 as data packet stream; col. 8, lines 27-29);

c) a local video display (display 10) arranged to display video images to said local video call participant (See Fig. 1); and

d) an image generator (display controller 418, Fig. 4) arranged to receive said local video images and information relating to said remote video images, and generate combined video images for display on said local video display by combining said local and remote images such that the images of the participants appear to be overlaid one on top of the other in substantial alignment (see overlaid videos on the displays of Fig. 1, see also col. 4, lines 50-61);

but does not teach a virtual reality unit to produce virtual reality (VR) style images of a local video call participant, a transmitter arranged to receive said VR style images to a remote receiver, and an image generator to generate combined video images for display by combining the BR style image of the local participant with the image of the remote participant.

Maurer teaches in Fig. 1, a system wherein a video imaging means (camera 12) comprises virtual reality processing means (facial animation processor 18), arranged to

generate video images of an avatar of the user for use as the first video images (the facial movements of a user are tracked and are used to create an animated facial image on an avatar of a display of a remote user; col. 3, lines 13-30).

It would have been obvious to a person having ordinary skill in the art to have used the teaching of Maurer with that of Cash since both patents are directed to video conferencing techniques, and additionally since Maurer allows the tracking of a person's natural characteristic without any unnatural elements that may interfere or inhibit the persons' natural characteristics. (See abstract of Maurer.)

Claim 54 is rejected as the method claim performing the steps of the apparatus of claim 42, analyzed above.

Allowable Subject Matter

10. Claims 36, 40, 48, and 52 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Webb (US 6,567,128) discloses macroblock transparency and the display of transparent macroblocks over other macroblocks.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHIA-WEI A. CHEN whose telephone number is (571)270-1707. The examiner can normally be reached on Monday - Friday, 7:30 - 17:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571) 272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Lin Ye/
Supervisory Patent Examiner, Art Unit 2622

/C. A. C./
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